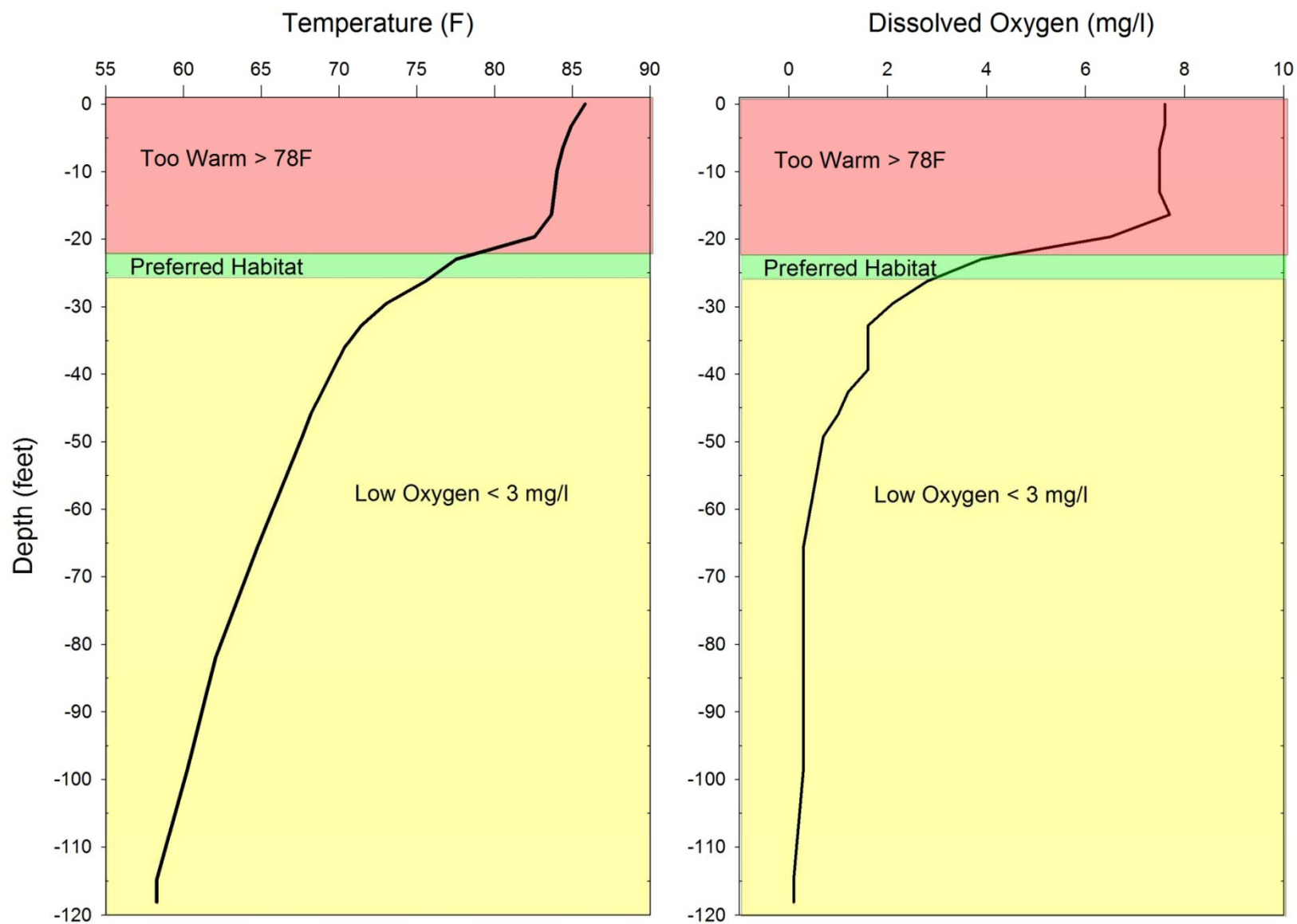


Distribution of Striped Bass in Thurmond Reservoir, South Carolina - Georgia, in Relation to Pump Storage Operations and Oxygenation



Water Quality Lower Thurmond – September 1, 2010



Striped Bass Habitat



Striped Bass Habitat



Striped Bass Habitat

- DO > 5 mg/L
- Temp 64 – 75 F



Objectives

- Document seasonal distribution of striped bass and hybrids after the oxygen injection system is installed
- Document the extent of striped bass and hybrid use of the newly-created habitat





Tagged most 2013 STB with external reward tags (\$50).

STRIPED BASS ANGLERS - REWARD FOR RETURNED TAGS



SCDNR, GADNR, and USACE are conducting a study of striped bass (rockfish) in J. Strom Thurmond Reservoir (Clark Hill), and Russell Dam tailrace.

The objectives of the study are to:

1. Evaluate striped bass use of the Russell tailrace.
2. Evaluate striped bass use of the newly oxygenated area below Modoc, SC.
3. Determine angler harvest rates.

To accomplish these objectives, a number of striped bass have been implanted with transmitters and externally tagged. All external tags have a \$50.00 value.

How do you report a tag?

- You do not need to harvest the fish to claim your reward.
- If you do not harvest the fish, simply clip the external tag from the fish. Do not pull it from the body, carefully release the fish and return the external tag to SCDNR for your reward.
- If harvesting the fish, please return the external tag and the internal transmitter (which should be visible inside the fish after filleting) so it can be reused.
- To report a tagged fish, call 1-888-824-7472 or visit www.dnr.sc.gov/stripedbass/.



What do you report about your tagged fish?

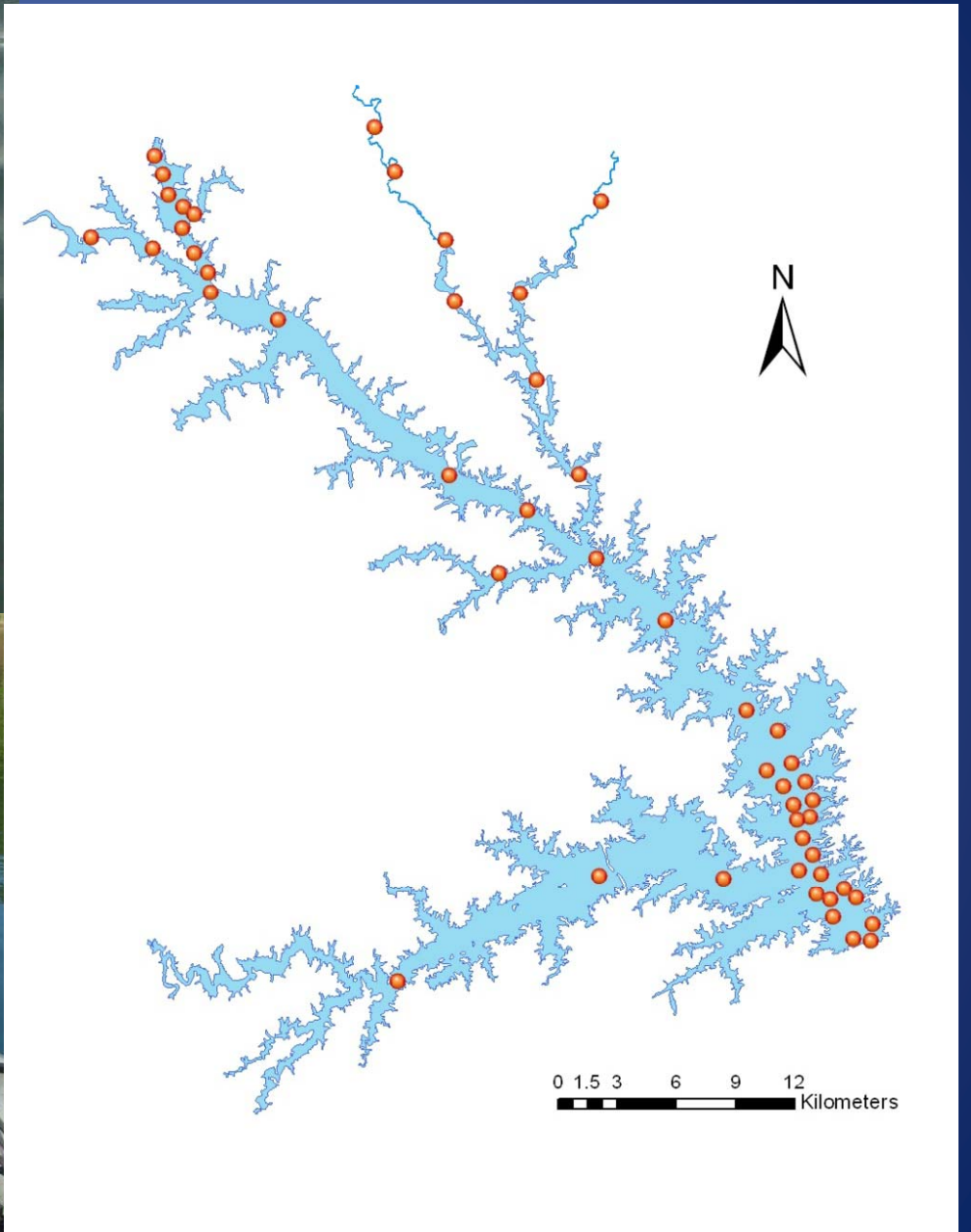
- Report the date your fish was caught, the location, the tag number and total length of the fish (when possible).
- Report whether the fish was harvested.



Thank you for your assistance in fisheries conservation and management!
For more information, call 803-353-8232 or visit www.dnr.sc.gov/stripedbass/.





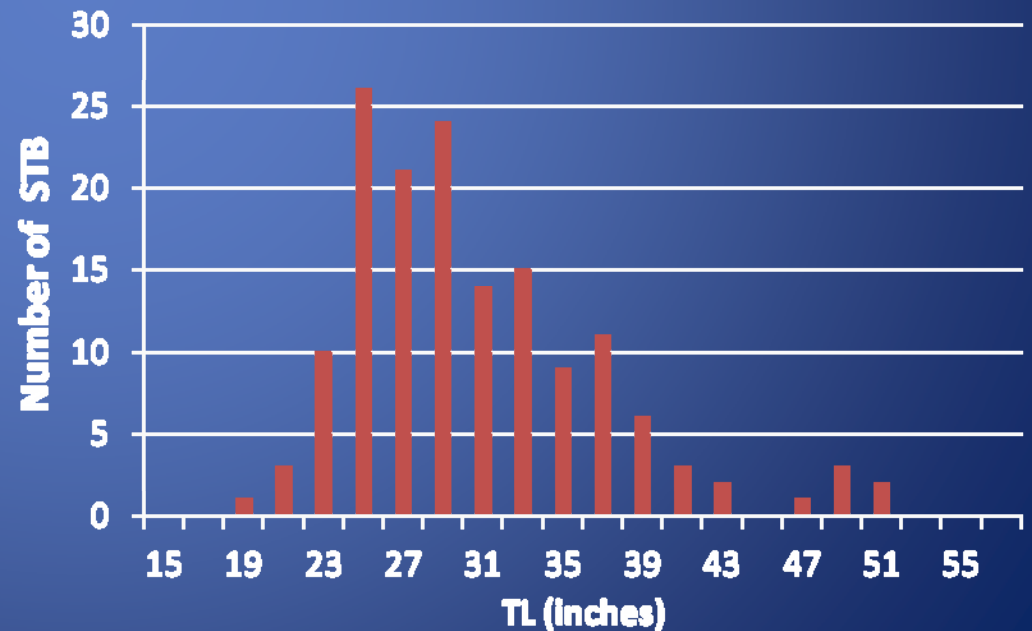




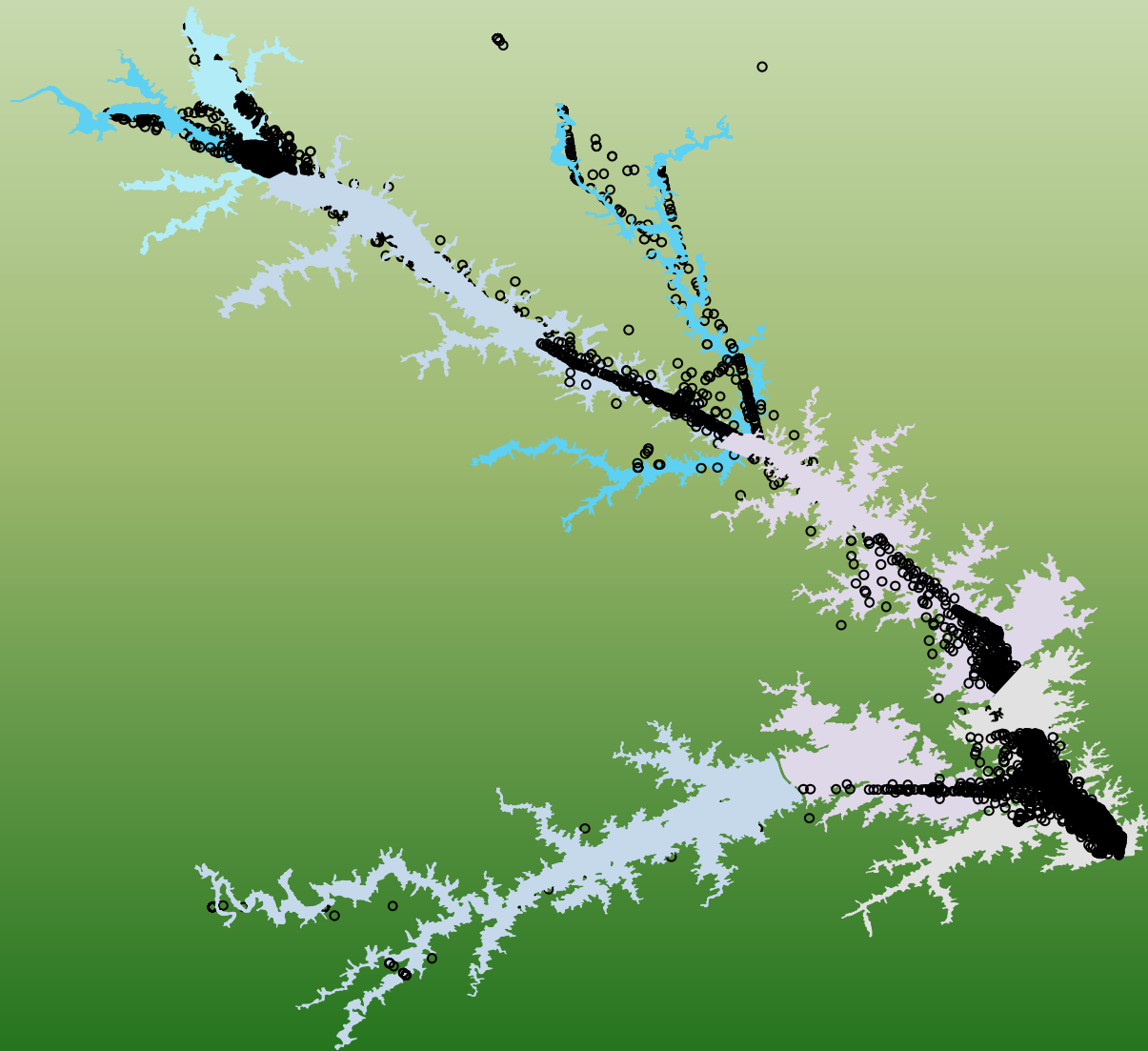
Striped bass implanted with transmitters

Year	N	Mean TL (inch)	Min TL (inch)	Max (inch)
2010	38	29	19	51
2011	36	29	22	51
2012	38	28	19	40
2013	39	32	24	45

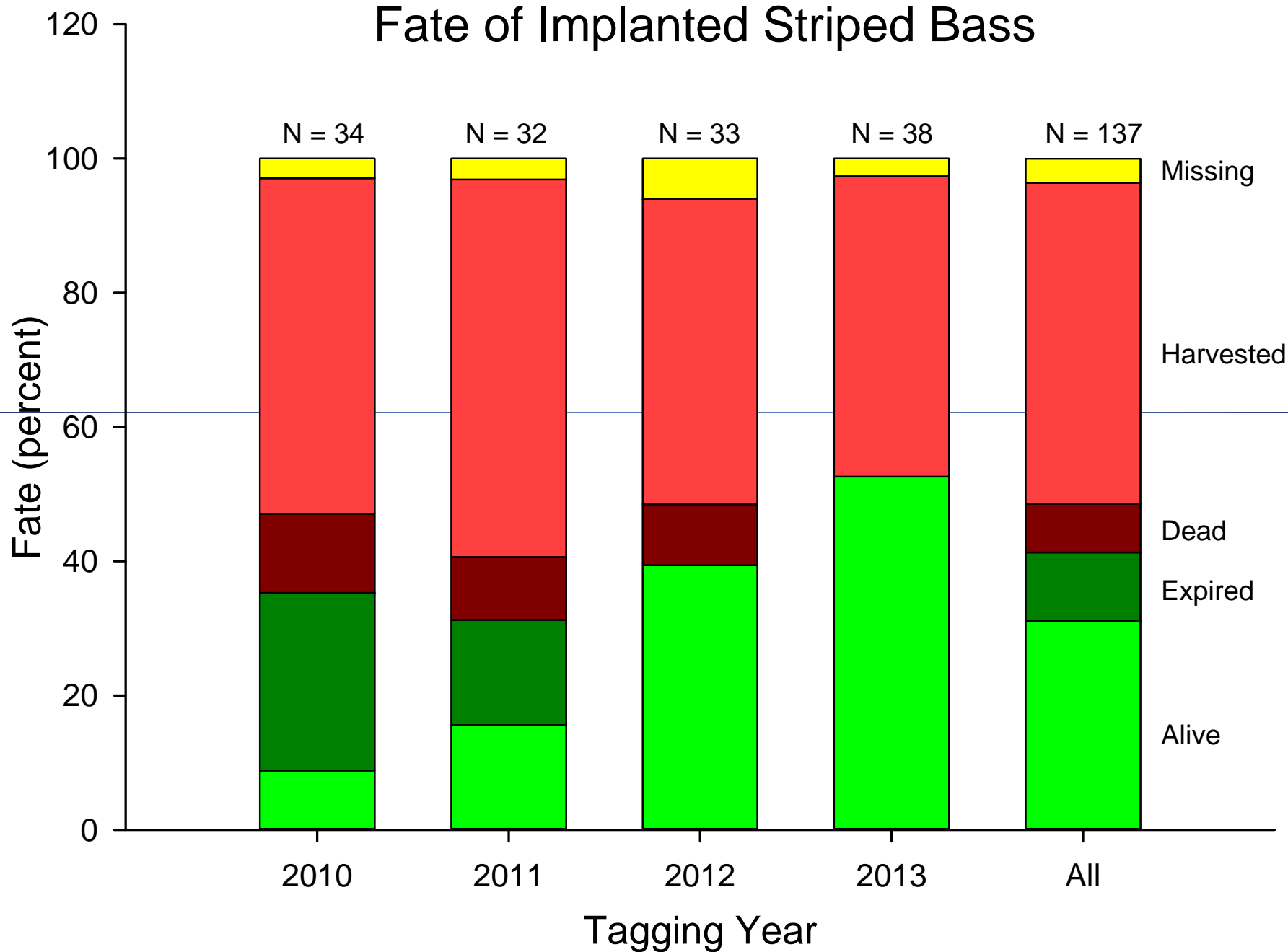
Location	N
Broad River, GA	33
RBR Tailrace	40
Little River, GA	33
Little River, SC	28
Long Cane Creek, SC	17
Total	151



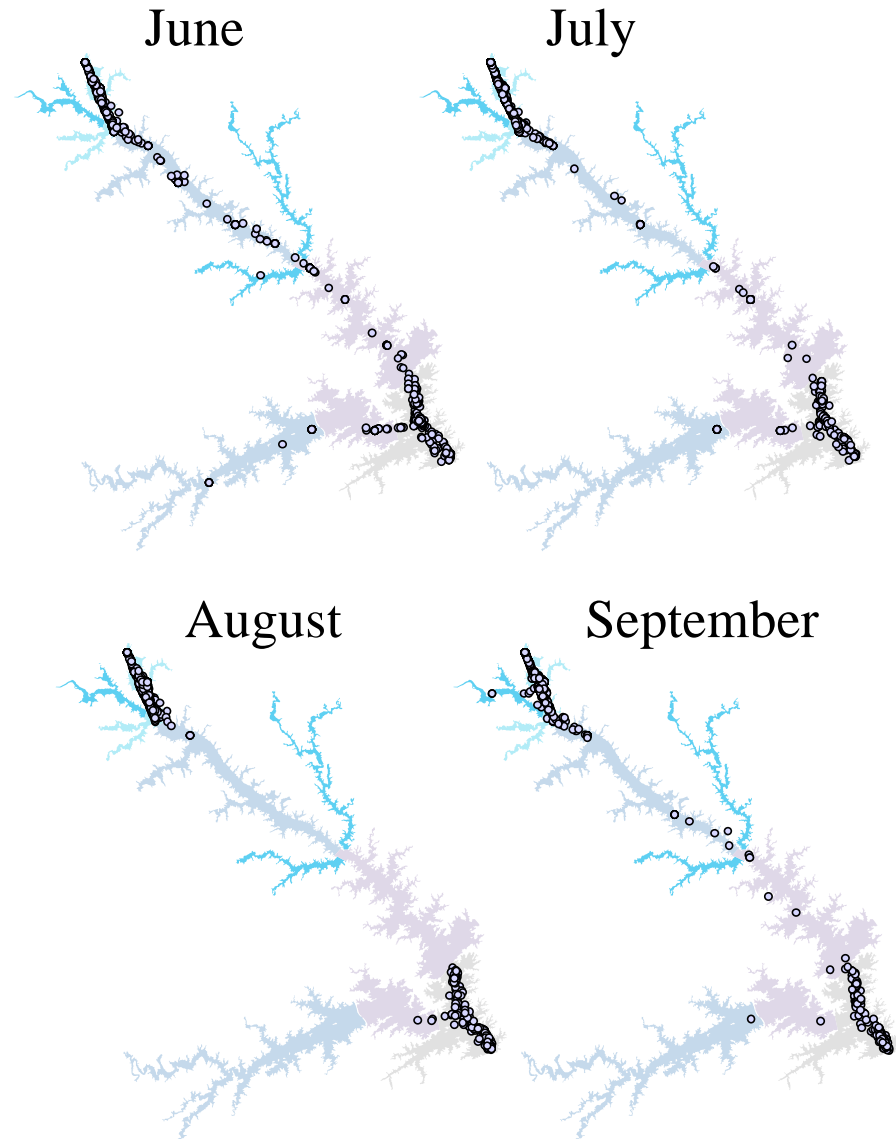
Average Daily Positions of Transmitter-implanted Striped Bass



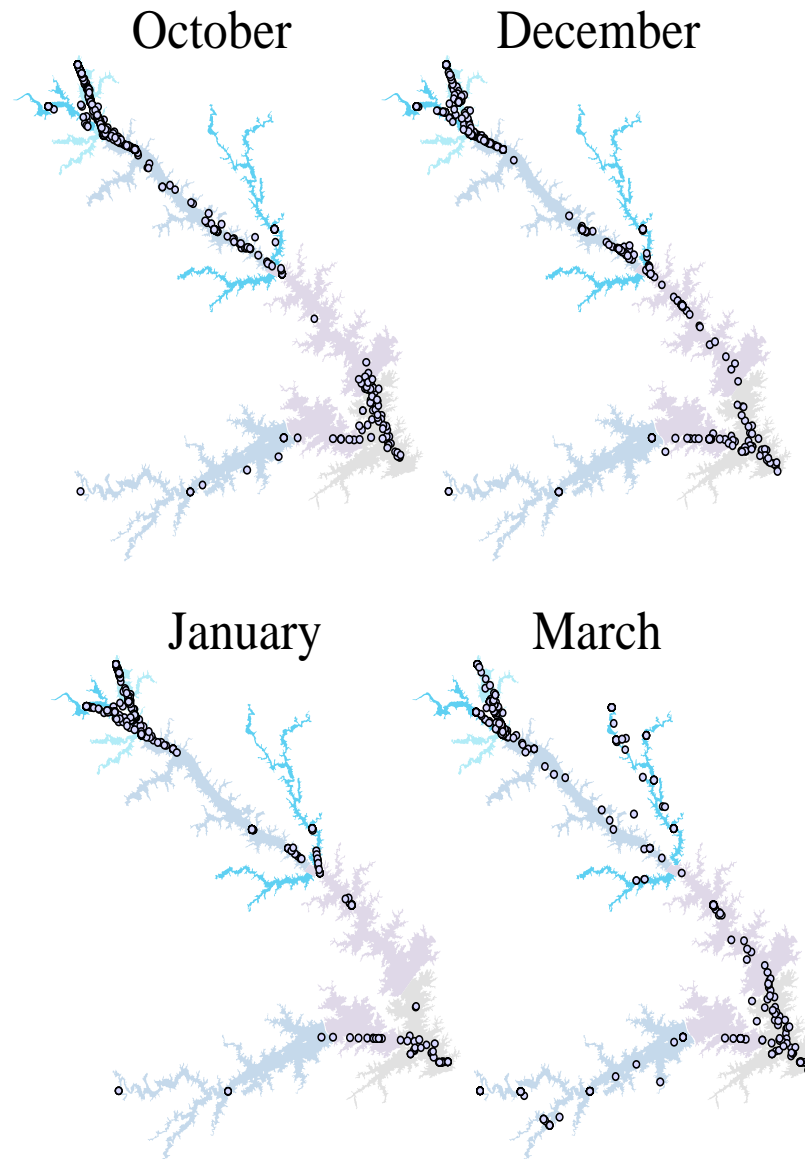
Fate of Implanted Striped Bass



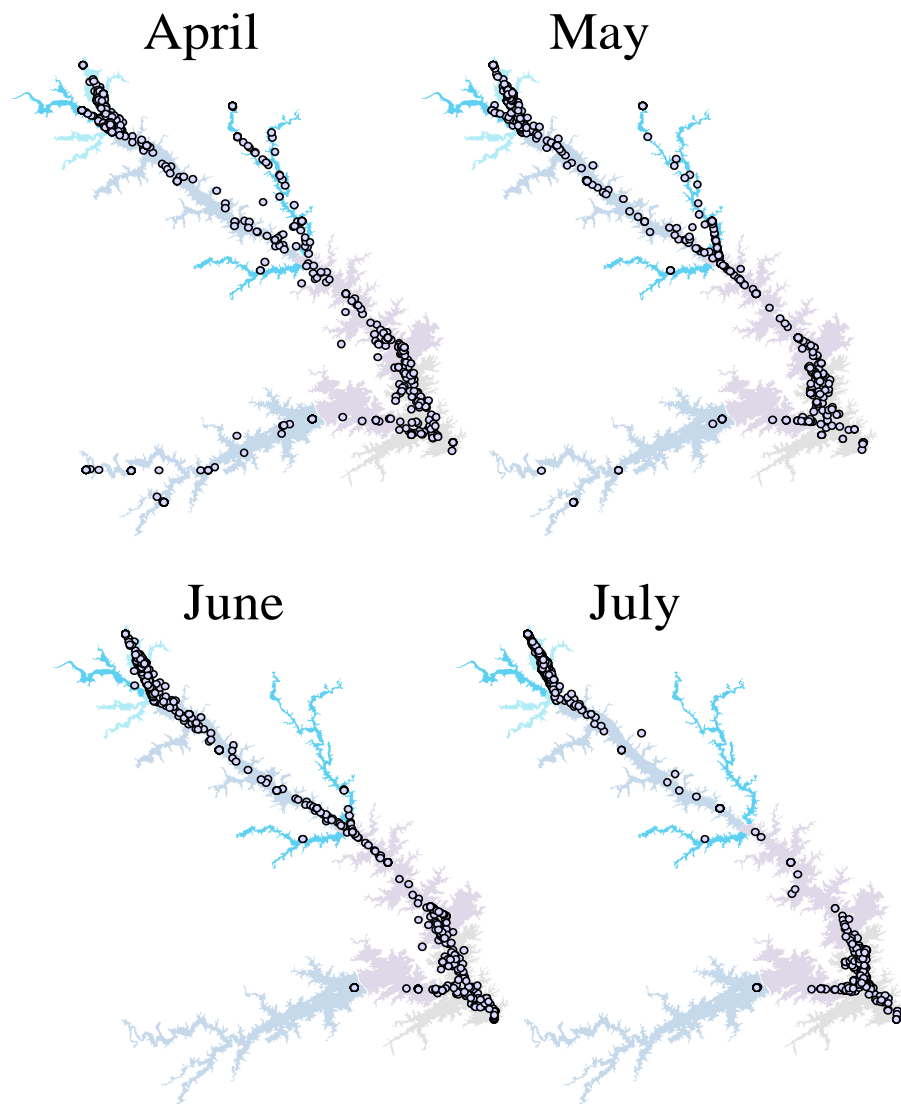
Striped Bass Average Daily
Positions during Summer 2011



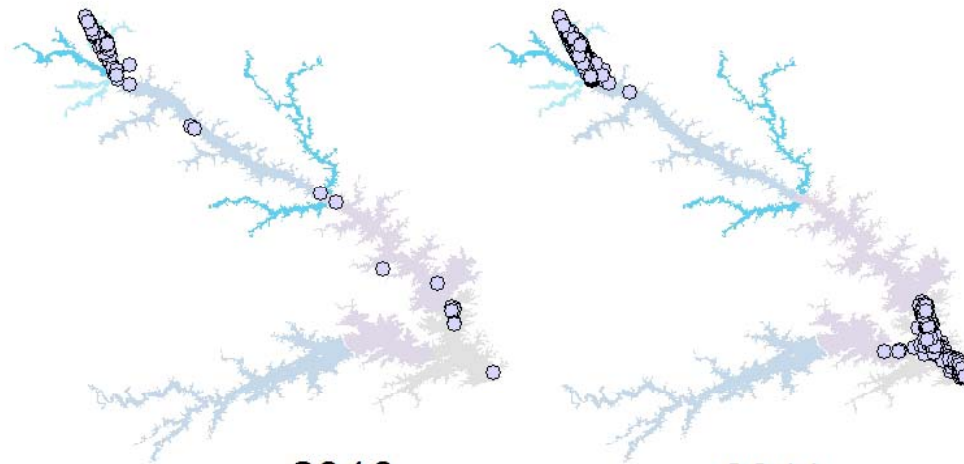
Striped Bass Average Daily Positions
During Fall 2011 and Winter/Spring 2012



Striped Bass Average Daily Positions
During Spring/Summer 2012

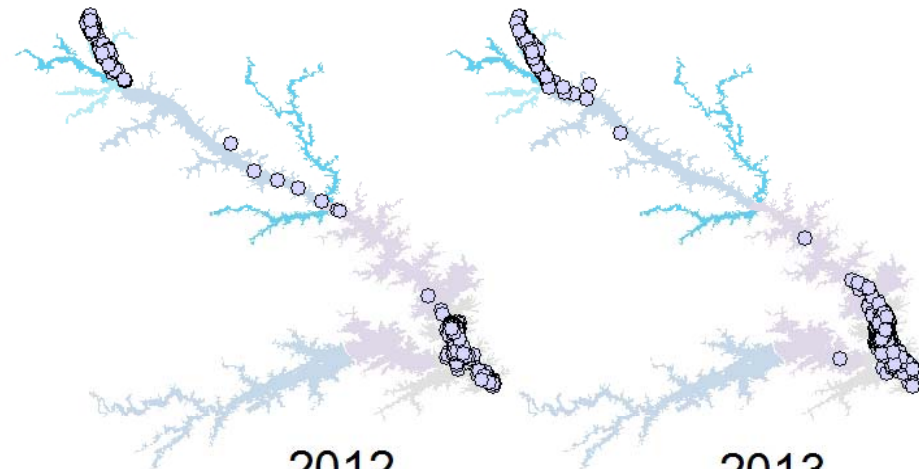


Mean Daily Positions During August



2010

2011



2012

2013

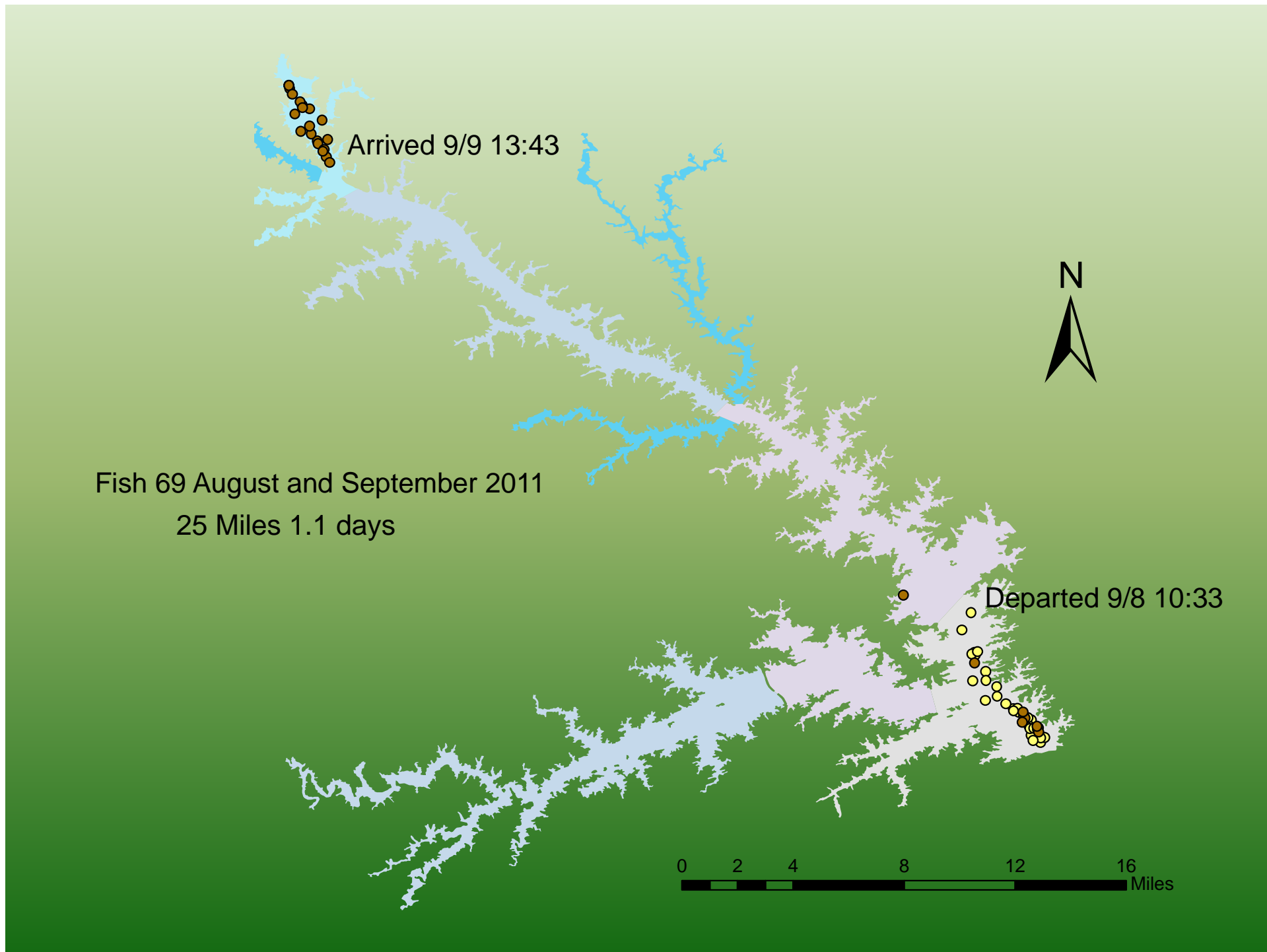
Fish 69 August and September 2011
25 Miles 1.1 days

Arrived 9/9 13:43

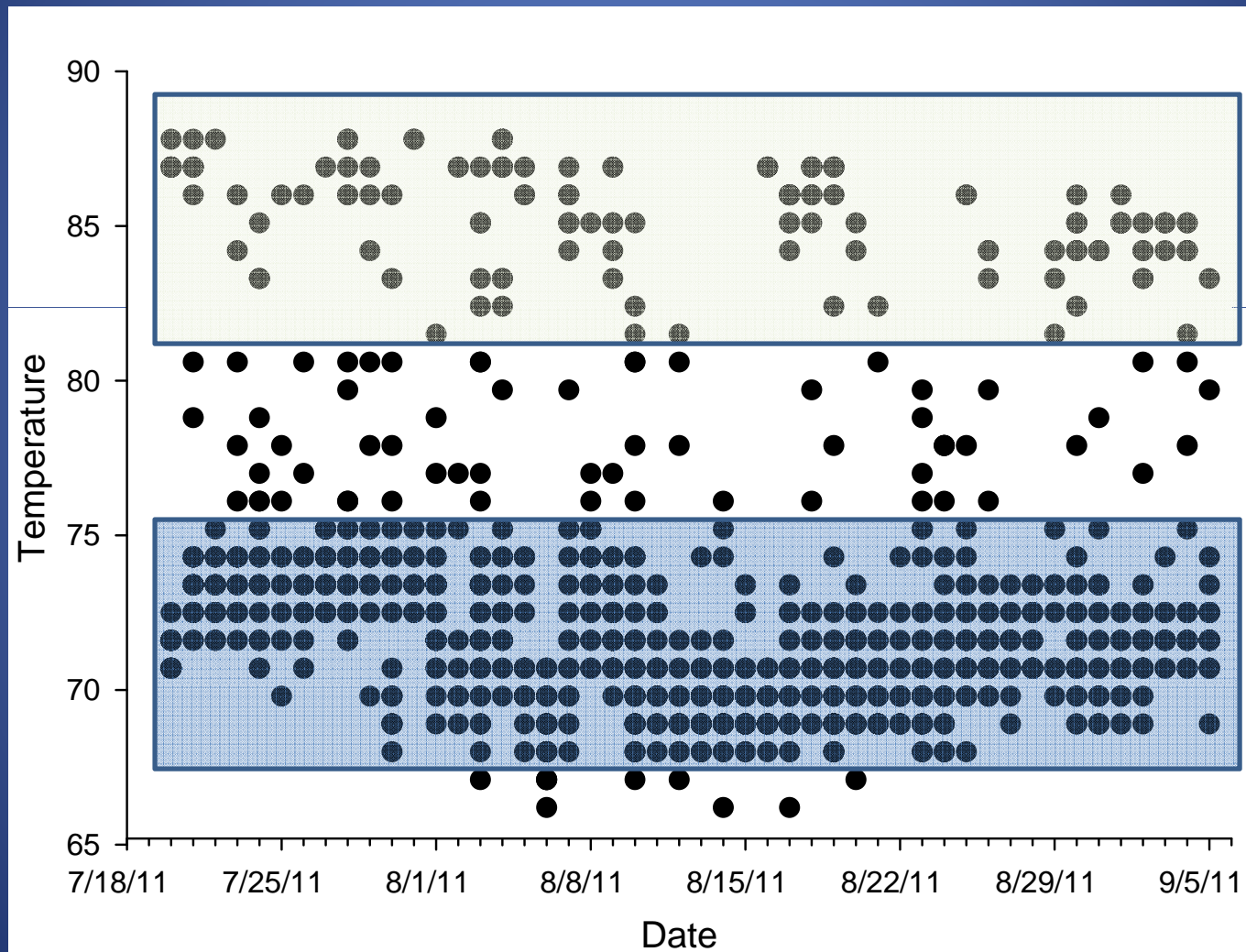
Departed 9/8 10:33



0 2 4 8 12 16 Miles

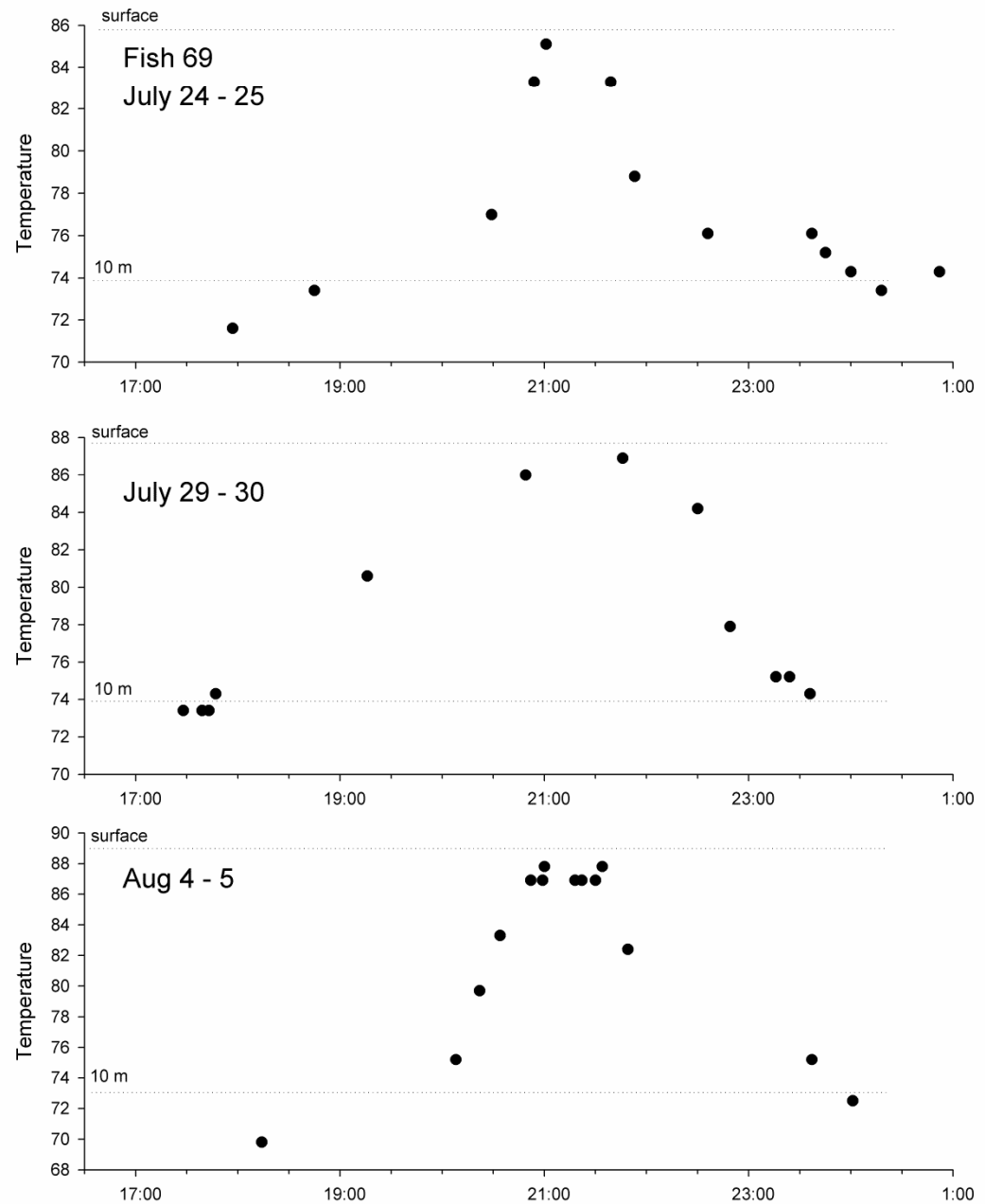


Summer Temperature Observations for Fish #69 below Modoc (N = 1,883)

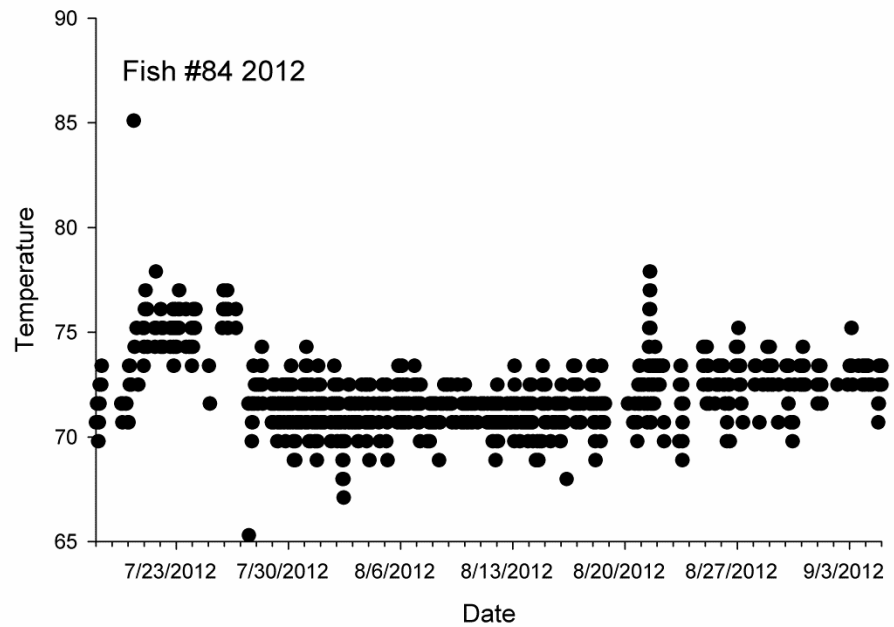
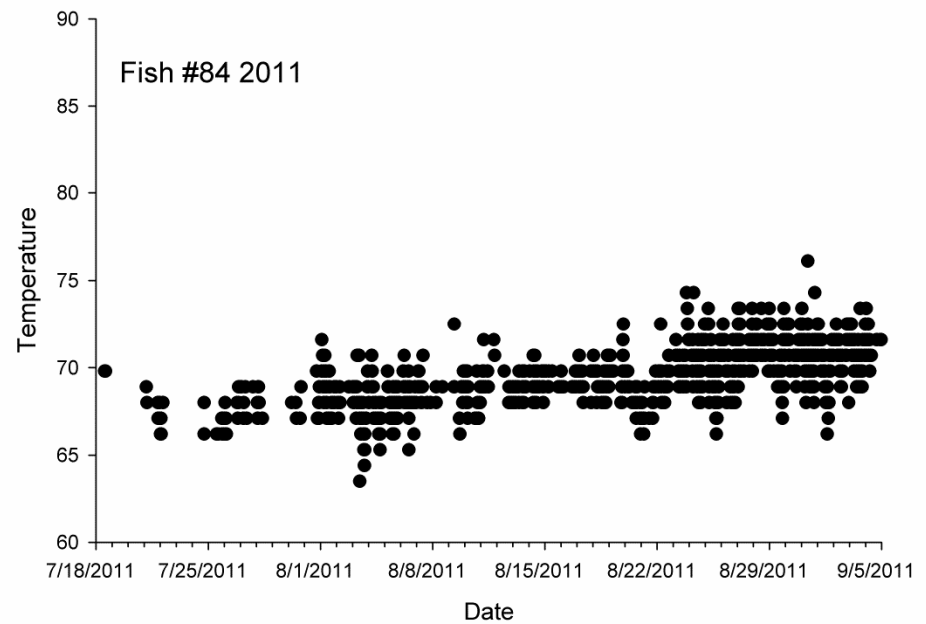


Vertical Migrations of fish 69 on three summer dates

Moves to the surface each
night for a few hours and
returns to depths with
suitable water temperatures
before midnight



Not all fish make vertical migrations during summer



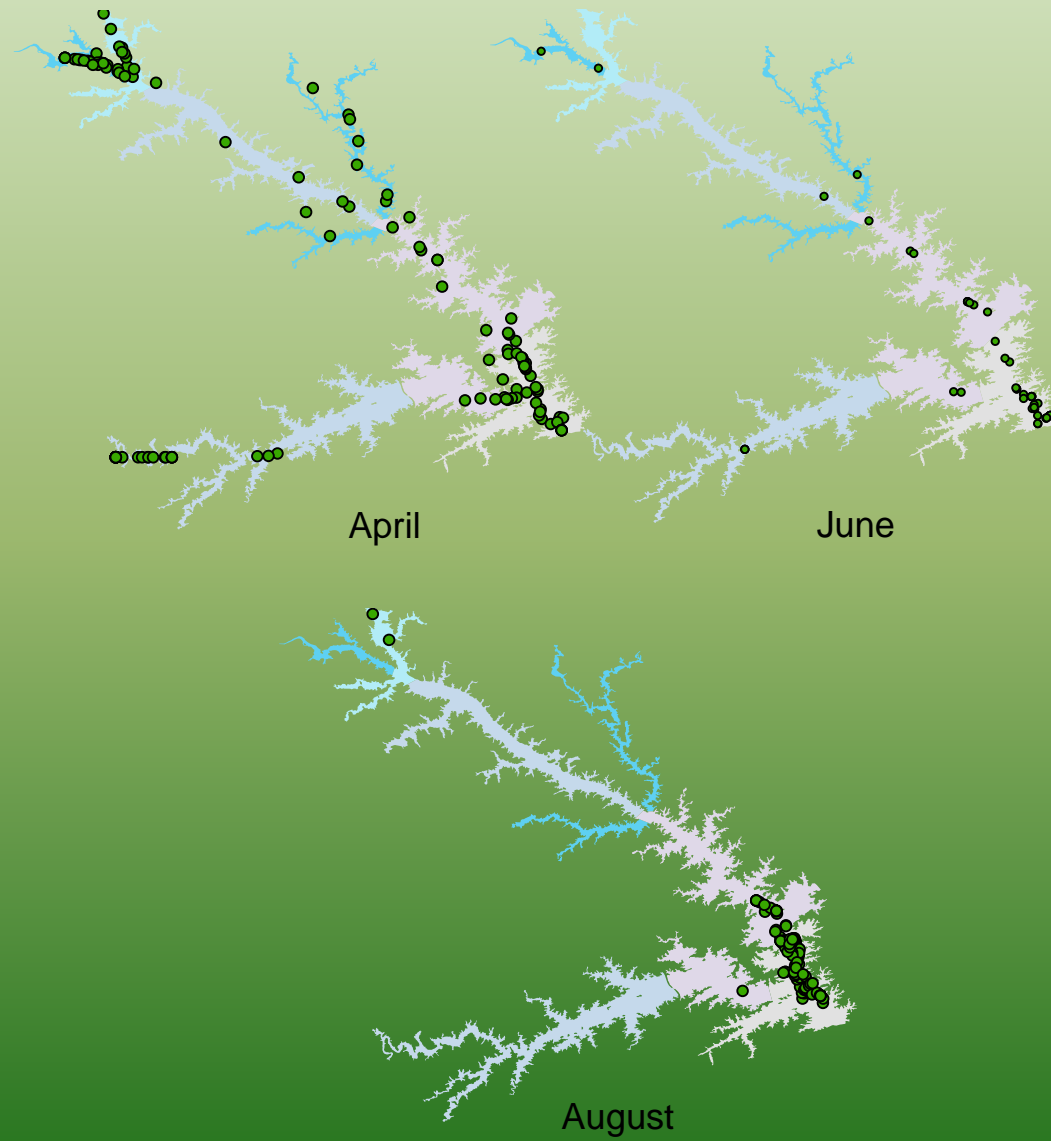
Hybrid striped bass implanted with transmitters - 2013

Location	N	Mean TL (in)	Min TL (in)	Max TL (in)
Broad River, GA	8	22	21	24
Little River, GA	4	23	20	24
Little River, SC	2	20	20	20
Grand Total	14	22	20	24

Fate of implanted Hybrids

Year	Alive	Harvested	Missing	Tagging Mortality
2013	5	1	5	3

Mean Daily Hybrid Locations 2013



Conclusions

- Of our tagged striped bass roughly 35% survive, 51% are harvested and the remaining die of natural causes
- The Russell tailrace and oxygenated area near Modoc provide critical summer habitat
 - Fish are not restricted to the O2 injected area
- Some fish restrict their movements to the upper lake others use the entire lake
- During summer some fish make vertical migrations to the surface

Future

- Continue study through December 2014
 - Tagging additional striped bass and hybrid bass
- Compare habitat use of striped bass and hybrid bass

